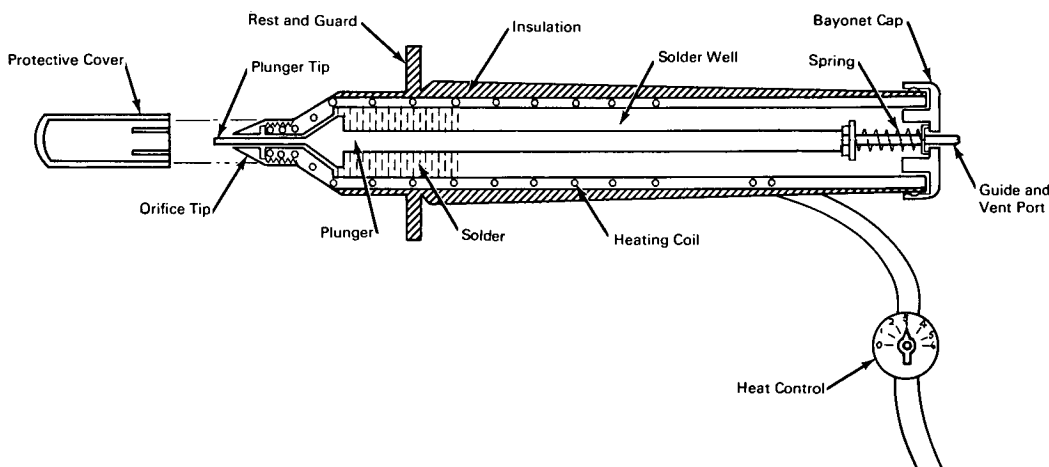


NASA TECH BRIEF



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Soldering Tool Heats Workpieces and Applies Solder in One Operation



The problem:

To design a soldering iron or gun that will facilitate the application of solder to joints, particularly to close-tolerance requirements in densely packed electronic assemblies.

The solution:

A fountain-pen type of soldering iron that both heats the areas to be joined and applies the desired amount of molten solder.

How it's done:

The tool is comprised of a vented solder well surrounded by an electrical heating coil, a spring-loaded plunger, an orifice tip, and an insulated jacket with an integral handguard and rest. All components that contact the solder are made of a material such as polished stainless steel, to which solder will not adhere.

After the proper temperature setting is made on the heat control and the solder in the well is completely melted, the orifice tip of the tool is held against the spot to be soldered until it is heated to the working temperature. With the orifice tip still in contact with the spot, flux is applied in the usual manner. The plunger tip is then pressed against the heated surface for an instant to unseat the spring-loaded plunger and allow solder to flow out of the orifice.

Notes:

1. The basic soldering tool may be used with different-sized orifice tips, eliminating the need for an assortment of conventional soldering guns.
2. For soldering very small connections, the plunger tip may be used for heating the workpiece to the proper soldering temperature.

(continued overleaf)

3. This tool permits soldering to be performed with greater speed and safety than is possible with conventional soldering guns.
4. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio, 44135
Reference: B66-10115

Patent status:

No patent action is contemplated by NASA.

Source: Vernon W. Gudkese
(Lewis-247)